PND8

COST-EFFECTIVENESS ANALYSIS OF REBIF IN FIRST-LINE RELAPSING REMITTING MULTIPLE SCLEROSIS IN GERMANY

Nuijten MJ[1], Mittendorf T[2], Jäcker A[3], Osowski U[4]
[1]Ars Accessus Medica/Erasmus University Rotterdam, Amsterdam, The Netherlands, [2]Leibniz University of Hannover, Hannover, Germany, [3]Serono GmbH, Darmstadt, Germany, [4]Merck Pharma GmbH, darmstadt, Germany

OBJECTIVES: To assess the cost-effectiveness of Rebif compared to its comparators in the German health care setting in 2008. **METHODS:** A decision analysis model was used to estimate the cost-effectiveness of Rebif in patients with relapsing-remitting multiple sclerosis (RRMS). The analysis was based on a comparison of treatment with Rebif (44 mcg tiw) versus all other existing disease modifying drug (DMD) treatments from a societal perspective: Avonex (30 mcg qw), Betaferon (8 MIU qod), Copaxone (20 mg qd). Data sources used included published literature, clinical trials, official German price/tariff lists and national population statistics. The time horizon of the model was four years, which is the maximum follow-up of patients in published clinical trials with interferons. **RESULTS:** The cost-effectiveness expressed in cost per relapse avoided is €51,250 for Rebif, which compares favourably with the other comparators. The cost per relapse avoided is €133,770 for Avonex, €71,416 for Copaxone and €54,475 for Betaferon, respectively. When cost of disease progression is excluded, the cost per relapse avoided remains favourable for Rebif (€ 54,292) compared with the other drugs (Avonex €143,186, Copaxone €72,809, Betaferon €56,816). Sensitivity analyses varying the discount rate, frequency of type of relapse, cost of relapse, cost of disease progression and non-compliance have a minor impact on the study outcomes. **CONCLUSIONS:** This study provides evidence on the cost-effectiveness of first-line treatment options for multiple sclerosis in the German setting. In particular, we found that the cost-effectiveness associated with Rebif 44 was favourable compared to other DMDs, providing additional value to payers.

PND9

WITHIN-TRIAL COST EFFECTIVENESS ANALYSIS OF ARIPIPRAZOLE COMPARED TO STANDARD-OF-CARE IN THE SCHIZOPHRENIA TRIAL OF ARIPIPRAZOLE (STAR)

King D[1], Knapp M[1], Kan HJ[2], Pugner K[3], van Baardewijk M[3]
[1]London School of Economics, London, UK, [2]Bristol-Myers Squibb, Wallingford, CT, USA, [3]Bristol-Myers Squibb, Braine-l'Alleud, Belgium

OBJECTIVES: To investigate the cost-effectiveness of aripiprazole compared to standard-of-care (SOC) in the Schizophrenia Trial of Aripiprazole (STAR). **METHODS:** STAR was a multicentre, 26-week, randomised, naturalistic, open-label study comparing aripiprazole with SOC (defined as clinician's choice of olanzapine, quetiapine or risperidone) in the management of community-treated patients with schizophrenia (1). The primary outcome in the cost-effectiveness analysis was the cost per unit of improvement on the main clinical outcome in STAR, the Investigator's Assessment Questionnaire (IAQ) (2). Secondary outcome measures were the cost per additional CGI-I responder and the cost per unit of improvement on the Quality of Life Scale (QLS). Data on service use and employment were collected alongside the trial. Statistical adjustment was made for baseline characteristics on all outcomes. The perspective taken was that of the NHS and social care in the UK. **RESULTS:** Aripiprazole was associated with a significantly better improvement on the IAQ ($p = 0.0002$), the CGI-I response rate ($p = 0.0080$) and the QLS scores ($p = 0.0003$) as compared to SOC. The improvement observed in the QLS scores at six months in this study approached that of clinical significance at 1 year (3.4). The incremental cost effectiveness ratio (ICER) for the IAQ was £714 per unit of improvement. We estimated that a clinically significant improvement would be an 8 point improvement in the IAQ score. The cost per 1% increase in the number of CGI-I responders was £1413. Thus it would cost £1413 to go from 10 to 11 responders in a sample of 100 patients. The ICER for the QLS suggests a cost of £288 for each unit of improvement gained. **CONCLUSIONS:** Aripiprazole has shown to provide improvements in effectiveness and quality of life at a reasonable cost compared to SOC based on an economic analysis of a naturalistic trial.

PND10

BURDEN OF DISEASE IN MODERATE ALZHEIMER DISEASE PATIENTS WITH DEPRESSION IN SPAIN (IDEAL STUDY)

Collar JM[1], Porta-Etessam J[2], Tobaruela JL[3], Rabes C[1], Casado MA[4]
[1]Grünenthal Group Spain, Madrid, Spain, [2]Hospital Clinico San Carlos, Madrid, Spain, [3]Hospital Virgen de la Poveda, Madrid, Spain, [4]Pharmacoeconomics & Outcomes Research Iberia, Madrid, Spain

OBJECTIVES: To assess the economic burden of moderate Alzheimer's Disease (AD) and to analyze the impact of depression, from the societal perspective. **METHODS:** IDEAL is an epidemiological, prospective and multicentric study in which 1,071 patients from 180 investigators in Spain, with moderate AD and available information on resources were assessed. Resources consumption was assessed in a cross-sectional way at the end of the study. The following resources were included in the analysis: health care (medication: anti-Alzheimer, neuroleptics and anti-depressive drugs) and non-health care direct costs (formal care and social services: institutionalization and day care center attendance) and indirect costs (caregivers loss of productivity). Costs are expressed in euros 2007. The cognitive and functional status were measured by the Mini-Mental State Examination (MMSE) and Barthel Index, respectively. Patients were grouped taking into account the score obtained in the depression Cornell Scale (cut-off-point: ≥ 8). **RESULTS:** Depression was present in 52% of the patients. The average monthly cost per patient was €1043 and €653 in patients with and without depression, respectively. Non-health care direct costs and the caregivers loss of productivity were the most important cost categories. In patients with depression, 56%, 34% and 10% were attributable to non-health care direct costs, productivity loss and drug costs, respectively. In comparison, in patients without depression, the same distribution costs were 61%, 25% and 14%. The cost of productivity loss is more than doubled in the depression patient cohort. Patients with depression showed a higher and significant cognitive impairment, through MMSE scores: 14.7 (± 4.7) in depressed patients and 15.2 (± 4.9) in non-depressed patients. The same finding was observed in the daily life activities measured by the Barthel Index: 68.2 (± 22.7) and 81.1 (± 19.9) in patients with and withour depression. **CONCLUSIONS:** Adequate management of depression in patients with moderate AD would have a positive impact on societal resource consumption.

PND11

EPILEPSY COST OF ILLNESS IN THE U.S. PRIVATELY INSURED

Birnbaum HG[1], Ivanova J[2], Kidolezi Y[1], Caleo S[3]
[1]Analysis Group, Inc, Boston, MA, USA, [2]Analysis Group, Inc, New York, NY, USA, [3]Janssen Pharmaceutica N.V, Beerse, Belgium

OBJECTIVES: Compare annual direct costs (both total and epilepsy-related) between privately insured U.S. epilepsy patients and matched controls. **METHODS:** A total of 4323 patients with greater than or equal to 1 epilepsy diagnosis (ICD-9-CM: 345.x),

1999–2004, ages 16–64 years, were selected from a privately insured claims database with 6+ million beneficiaries. Control group was an age and gender matched cohort of randomly chosen beneficiaries without epilepsy. All were required to have continuous health coverage during 2004 (baseline) and 2005 (study period). Chi-squared tests were used to compare baseline comorbidities. Wilcoxon rank-sum tests were used for univariate comparisons of annual direct (medical and pharmaceutical) costs to insurers during the study period. **RESULTS:** Patients with epilepsy averaged 43 years old, and there were more females (57%). Compared with controls, epilepsy patients had significantly higher rates of mental health disorders, comorbidities included in the Charlson Comorbidity Index (e.g., cerebrovascular disease, congestive heart failure, COPD, rheumatologic disease, cancer), migraine, and other neurological disorders. On average, direct annual costs were significantly higher for epilepsy patients ($10,258) compared with controls ($3,862), difference of $6,396, $P < 0.0001$. Outpatient services accounted for 34%, inpatient services for 28%, and drug costs for 27% of epilepsy patients' annual direct costs. Among epilepsy patients, non-epilepsy costs accounted for $8201 (80%) on average and epilepsy-related costs (i.e., costs for antiepileptic drugs, claims with an epilepsy or convulsions diagnosis, neurology visits, and selected diagnostic procedures) accounted for $2057 (20%). Approximately 13% ($1047) of non-epilepsy costs were attributable to mental health-related expenditures. **CONCLUSIONS:** Patients with epilepsy had significantly higher costs compared with matched controls. The excess costs of epilepsy patients are underestimated when looking only at epilepsy-related costs. Epilepsy-related costs represented 20% of the annual direct costs of epilepsy patients and almost one-third of the difference in costs between epilepsy patients and controls.

PND12

COSTS OF HERPES ZOSTER AND POST-HERPETIC NEURALGIA IN FRANCE

Bénard S[1], Pinchinat S[2], Gallais JL[3], Mick G[4], Simon F[5], Beillat M[6]

[1]StèVe Consultants, Lyon, France, [2]Biostatem, Castries, France, [3]Société Française de Médecine Générale, Paris, France, [4]Groupe d'Experts Douleurs Neuropathiques, Voiron, France, [5]Instituto de Salud Carlos III, Madrid, Spain, [6]sanofi pasteur MSD, Lyon, France

OBJECTIVES: A national multicentre retrospective study (EPIZOD) based on medical records review was conducted among a sample of general practitioners, dermatologists, neurologists and anti-pain centers. Main EPIZOD objectives were to estimate annual incidence of Herpes Zoster (HZ) and the proportion of patients developing Post-Herpetic Neuralgia (PHN) in France. PHN was defined as "persistence of pain at least one month after rash onset". An economic study was carried out in a sample of patients included in EPIZOD to estimate costs associated with HZ and PHN management in patients aged more than 50 in France. **METHODS:** Costs of health resources utilization, including consultations, examinations, treatments (i.e. drugs and non-pharmacological treatments), hospitalizations and sick leaves, were valued according to official tariffs and weighted by patients' treatment patterns. Estimations were calculated according to both Third Party Payer (TPP) and societal perspectives. **RESULTS:** Among 862 HZ and 412 PHN patients included in EPIZOD, 108 and 88 patients, respectively, were recruited for the economic study. Mean cost per HZ case was estimated to be €182.92 for TPP and €346.78 for the society. Each PHN case was assessed to cost on average €339.84 and €555.56 respectively. Main costs drivers for TPP were treatments (about 50% of total costs), followed by hospitalizations and medical consultations (about 20% each). Based on EPIZOD incidence estimations, annual cost associated with HZ and PHN management would reach €61.0 million for TPP and €108.5 million for the society. **CONCLUSIONS:** This study suggests that HZ and PHN are costly diseases in France. In this context, our findings will be useful for policymakers when assessing HZ and PHN control measures, including the introduction of a vaccine.

PND13

ALZHEIMER'S DISEASE PRESCRIPTION MEDICATION COSTS: 2004–2005

Anderson K

Uniformed Services University of the Health Sciences, Bethesda, MD, USA

OBJECTIVES: Alzheimer's disease is a chronic, progressive disease, characterized by deterioration of cognitive function. The prevalence rate of Alzheimer's disease is 10 percent in people over the age of 70, and 40 percent for people over age 90. There is no cure for Alzheimer's disease therefore the goal of treatment is to control the signs and symptoms of the disease through prescription medications. At the national level, research is lacking in the area of prescription medication costs for Alzheimer's disease. The objectives of this study were to estimate the number and cost of prescription medications for Alzheimer's disease in the United States. **METHODS:** The Medical Expenditures Panel Survey is a nationally representative sample of the non-institutionalized, civilian population in the United States. Data from the 2004–2005 Medical Expenditures Panel Survey were used to estimate the cost of prescription medications for Alzheimer's disease. To test for a difference between costs of prescription medications for gender, a t-test was used. A series of one-way ANOVA analyses were used with each of the remaining demographic variables (age, marital status, income and region of residence) serving as the independent variable and the cost of Alzheimer's prescription medications as the dependent variable. **RESULTS:** Over 1.9 million people reported having Alzheimer's disease in 2004 and 2005. Over the two year period, these patients reported having over 10 million prescriptions filled for Alzheimer's medications at a cost of over $1.3 billion in U.S. dollars. **CONCLUSIONS:** The most rapidly growing segment of the population by the year 2030 will be people over the age of 85. Because life expectancy is increasing and the risk of developing Alzheimer's increases with age, this cost of prescription medications estimation has both current and future relevance for health care insurers, providers, administrators, policy makers and Alzheimer's patients.

PND14

MEDICATION COSTS OF PATIENTS WITH CYSTIC FIBROSIS (CF) IN GERMANY

Eidt D, Mittendorf T, von der Schulenburg JM

Leibniz University of Hannover, Hannover, Germany

OBJECTIVES: CF patients need specialized long-term medication. In order to support lung function inhalable pharmaceuticals like bronchodilators, mucolytica or anti-inflammatory drugs are used. Oral or inhalable antibiotic therapy is especially important for patients whose lung has a chronic colonization with germs. In case of pancreatic insufficiency digestive enzymes have to be substituted and patients need an additional supplement of vitamins as well as high caloric food. All of these aspects lead to high medication in CF patients. Hence, aim of this work is to analyse medication mixtures and related costs for CF in Germany. **METHODS:** Medication data was evaluated in seven different outpatient CF centres. Data was recorded via medication lists by the physicians reporting name of medication, dosage and phar-